

AP20 Rec'd PCT/PTO 15 MAY 2006

INFUSION CONTAINER FOR TEA OR THE LIKE COMPRISING A COVER AND INFUSION BAG

The invention relates to a device for providing a drink from extracts, in particular tea
5 extracts, comprising at least one container for an extractable mixture which is at least
partially permeable to drink, and a cover connected to the container. The invention also
relates to a cover for use in such a device. The invention further relates to a container
for use in such a device.

10 Containers for extractable substances such as tea are well enough known and are for
instance supplied as tea bags by DE, a daughter of Sara Lee, USA. In the known tea
bags a container with tea hangs from a string with a label which can be torn out of a
bag. The container is immersed in water while the string hangs over the edge of a pot or
drink container such as a mug or cup, whereby the label is held outside the drink
15 container. When the container is removed from the extracted drink, there is the danger
of the surrounding area being fouled by drink dripping from the container. A further
drawback of this known device is that the container will sink to the bottom of the drink
container, whereby the quality of the extracted drink can be adversely affected. This
moreover presents a disagreeably untidy appearance, and furthermore provides
20 relatively little space for instance for advertising.

The American patent US 5,318,786 describes a device, wherein the cover is formed by a
hook-like element for fastening the device to an external object, such as a liquid
container. The cover is connected to a container for extractable substances such that the
25 container is pivotable between a position of use, wherein the container is positioned for
immersion in a liquid, and a transporting position, wherein the container is partially
enclosed by the hook-like cover. In the transporting position the effectively occupied
volume is minimized, which can generally result in a reduction of the transport and/or
storage costs of the device. As well as the said advantage, the known device also has
30 drawbacks. One drawback of the known device is that after immersion in a liquid the
container can be pivoted from the position of use to the transport position (or storage
position), wherein there is a comparatively high risk of a user for instance being scalded
by liquid that has not yet cooled and/or being soiled or stained by liquid in which
extracts are dispersed dripping out of the container.

The invention has for its object, while maintaining the advantage of the prior art, to provide an improved device with which in simple and hygienic manner a device can be placed on a drink container and can be removed after use.

5 The invention further has for its object to provide such a device with which a pleasing appearance is obtained during use and with which a relatively large advertising surface can be presented.

A further object of the invention is to provide a device as of the type described in the preamble which is relatively simple to manufacture.

10

At least a number of these and other objectives and advantages are achieved with a device according to the invention.

The invention provides for this purpose a device of the type stated in the preamble, 15 characterized in that the container is connected to the cover such that the mutual orientation between the container and the cover can be changed between an active position, in which a substantial part of the container lies at a distance from the cover, and a non-active position, in which the container is at least substantially enclosed by the cover, and that the cover is provided with at least one incision for releasable fastening 20 of the cover to a drink container, wherein the incision extends from a longitudinal edge of the cover at least partially in a direction away from the container oriented in active position. The device according to the invention has the relevant advantage that, after use of the device, i.e. after temporary immersion in a liquid, the device can be removed from the liquid without a user being able to scald himself in simple manner with 25 relatively hot liquid, and without the user being stained or soiled by extracts dispersed in the liquid. The device according to the invention moreover makes it possible to squeeze out the liquid taken up by the container by applying an external load to the cover in the folded-up position, without the user usually coming into contact with the expressed liquid. Optionally heated water is preferably applied as liquid. It is however 30 equally conceivable to apply other, optionally heated (non-alcoholic) drinks. Tea leaves are preferably applied herein as extractable mixture. It is however also possible to envisage the use of a different extractable mixture with which a drink can be provided from extracts. Another great advantage of the device according to the invention is that in the active position the cover can be positioned relatively easily on the rim of a drink

container such as a mug, cup and so on, without detracting from the (intended) relatively hygienic and user-friendly operation of the device during and after displacement of the container to the folded-up (or slid-in) non-active position.

- 5 In a device according to the invention a container is provided which, using a cover, and in particular the or each incision, can be hung on the rim of a drink container such as a mug or cup such that substantially only the container hangs in the drink such as water in the drink container. The container can herein be held for at least the greater part at a distance from the bottom of the drink container, so that an optimal part of the permeable area of the container is held free. This applies all the more in the case of known folded-double containers because both parts thereof will hardly be pressed onto each other by the own weight of the container and the extractable substances that have become wet therein. In a device according to the invention, as a result of the position of the incision with which the cover can be placed on the drink container, the cover will extend almost vertically during use, or at least stand upward from said rim of the drink container, so that two sides thereof remain almost wholly visible. Hereon can be arranged information, advertising and the like which remains visible in an efficient and pleasing manner. The cover can be held almost completely out of the drink, while during removal the container can be taken up between the cover parts so that the user is protected against soiling and scalding. First and second longitudinal edge must here also be understood to mean a tangent on a part of the periphery of the relevant cover or a portion thereof, wherein said corner point can lie in or outside said cover part and as such may be virtual. Providing the or each incision in a further development with a first and a second part, which parts or tangent thereof enclose a mutual angle, achieves the advantage that the container is easy to place, wherein the incision or a part enclosed thereby allows itself to be easily bent outward for the purpose of placing. Tangent is here understood to mean at least a tangent line to the incision at a given position. In the case of a bent first part at the beginning of the incision at the second longitudinal edge, said tangent can thus be seen as a tangent line to said first part through the intersection of the first part of the incision and the second longitudinal edge. It is particularly advantageous here if the first part encloses an angle with the longitudinal edge, in particular the part thereof between the corner point formed by the first and second longitudinal edge and the beginning of the incision, which is obtuse such that the first part of the incision extends substantially in a direction away from the first longitudinal edge.
- 10
- 15
- 20
- 25
- 30

edge. This angle is for instance between 100 and 160°, more particularly between 120 and 150°. An angle of about 135° has been found to be especially practical. The angle between the first and second parts is preferably such that the second part extends in the direction of the second longitudinal edge and/or the side away from the first

5 longitudinal edge, as seen from the end of the first part. The angle enclosed between the first and second parts is preferably between 60 and 120°, more particularly between 75 and 105°. An angle of about 90° has been found particularly advantageous. The first and second parts can of course also be bent, either completely or in particular close to the second longitudinal edge and/or at the transition between first and second parts.

10

The cover parts are preferably substantially rectangular. The cover is hereby relatively simple to manufacture, with little waste, simple to package and to use, and furthermore an advantageous advertising surface is thereby obtained. In an advantageous embodiment both cover parts are provided with an incision, and these incisions

15 preferably coincide roughly when the cover parts lie against each other with the container removed from between them. An even better positioning thereby becomes possible and both cover parts are moreover held upward in advantageous manner when the device is placed onto the drink container.

20 In a device according to the invention the container can be connected to one or both cover parts, for instance with a first longitudinal edge thereof. The container can also be connected to the cover via a thread element such as a piece of string, preferably such that the container can be pulled between the two cover parts using the string.

25 The incision, in particular the first part thereof, preferably intersects the second longitudinal edge relatively close to the first longitudinal edge. It is particularly advantageous if the distance between the beginning of the incision and the corner point formed by the first and second longitudinal edges is less than half, and more particularly less than a quarter, of the total length of the relevant second longitudinal edge. An
30 advantageous position on the edge of a drink container is thereby improved still further.

In a further advantageous embodiment, a device according to the invention is characterized in that the container is connected to the cover such that the device is pivotable between a folded-out active position, in which a substantial part of the

container lies at a distance from the cover, and a folded-up non-active position, in which the container is at least substantially enclosed by the cover. The device according to the invention has the relevant advantage that, after use of the device, i.e. after temporary immersion in a liquid, the device can be removed from the liquid without a user being

5 able to scald himself in simple manner with relatively hot liquid, and without the user being stained or soiled by extracts dispersed in the liquid. Displacing of the container to the non-active position by means of pivoting is generally relatively simple, and therefore user-friendly.

10 In a preferred embodiment each cover part is connected, at least close to a side remote from the adjacent cover part, to a part of the container part, such as a first longitudinal edge, which is at least close to a side remote from an adjacent container part. A significant advantage of this preferred embodiment is that the container is then folded out to the maximum in the folded-out position, wherein the mutual distance between a

15 first pivot axis forming part of the container and a second pivot axis forming part of the cover can be maximized. The danger of contact between the user and the liquid during use of the device will thus be minimized.

20 The container is preferably manufactured from a flexible material. A container can thus be applied which is for instance manufactured from textile, paper or flexible plastic. A flexible material generally allows simple expressing of the liquid after use of the device, whereby the liquid content in the container can be minimized in simple and hygienic manner after use of the device.

25 Each container part is preferably provided with at least one compartment for the mixture. The distribution of the quantity of extractable mixture over a plurality of compartments generally has the advantage that the area/volume ration of the mixture can generally be increased, whereby extraction of extracts from the extractable mixture during immersion of the container in the liquid can take place in relatively rapid and

30 intensive manner.

In a particular preferred embodiment the incision is given an at least partial hook-like form. The incision has on the one hand the advantage that no recess, or at least no substantial recess, has to be arranged, whereby the cover retains its firmness and the

above stated advantages of the invention, while on the other hand the hook shape of the incision enables a stable positioning of the device.

In another preferred embodiment the container is at least substantially non-permeable to

5 the extractable mixture. It is thus possible to prevent a part of the mixture entering the drink, which is generally undesirable. Since the container must however be permeable to liquid, the container has to be provided with passage openings (or meshes), which have to be dimensioned such that they do not allow through (a substantial part of) the mixture.

10

The cover and the container can be connected releasably to each other. Such a preferred embodiment has the advantage that the cover can be given a durable form and can thus be reused a number of times. After use of the device the container can be disconnected from the cover and replaced by a new, unused container. The container is preferably

15 provided with coupling means for co-action with counter-coupling means forming part of the cover. The coupling means can herein be embodied for instance as two strips, these strips being arranged on the separate container parts. The counter-coupling means are then formed for instance by two counter-strips provided with a channel for receiving a part of the strips. It is however also possible to realize a different coupling between
20 the container and the cover. It is for instance thus possible to envisage an adhesive connection, a velcro tape connection, a mutual mechanical fastening and a clamping connection.

In another preferred embodiment the container is provided with a closable filling
25 opening for feed respectively discharge of the extractable mixture. Such a preferred embodiment has the advantage that the container can take a durable, although preferably flexible form, wherein only the partly extracted mixture is replaced after use of the device. Such an embodiment can otherwise also be applied without incision and/or in durable, reusable material.

30

The invention also relates to a cover for use in such a device. The cover can herein take a durable and a non-durable form. The cover is preferably provided with one or more characters to promote specific services or goods.

The invention further relates to a container for an extractable mixture for use in such a device.

The invention can be elucidated with reference to non-limitative embodiments as shown

5 in the following figures, in which:

figure 1a shows a perspective view of an embodiment of a device according to the invention in a folded-up situation;

figure 1b is a perspective view of the device of figure 1a in a transition situation;

10 figure 2 is a perspective view of an assembly of the device of figure 1 and a drinking cup;

figure 3 is a perspective view of another advantageous embodiment, with exploded parts, of a device according to the invention;

figures 4a-c show a third embodiment of a device according to the invention;

15 figures 5a-c show a fourth embodiment of a device according to the invention; and figures 6a and b show two embodiments of an incision of a device according to the invention.

20 In this description the same or corresponding parts have the same or corresponding reference numerals. Combinations of parts of the shown embodiments are expressly deemed to fall within the inventive concept.

Figure 1a shows a perspective view of a preferred embodiment of a device 1 according to the invention in a folded-up situation. Device 1 comprises a cover 2, which cover 2 is 25 constructed from two cover parts 3, 4 connected pivotally to each other and a container 5 for tea leaves connected pivotally to the two cover parts 3, 4. Container 5 is provided with two container parts 6, 7 connected pivotally to each other, which container parts 6, 7 are each provided with a compartment 8, 9 for the tea leaves. Cover 2 is preferably made from reinforced paper or cardboard, whereby cover 2 functions as gripping 30 member for a user. Cover 2 is provided with an imprint, for instance to advertise particular goods or services. At least one cover part 4 is provided with a hook-shaped incision 10 for stable positioning of device 1 on for instance a rim of a liquid container. The hook-shaped incision 10 also has the advantage - in addition to stable positioning of the device - that device 1 does not hook onto for instance an adjacent device, or at least

not readily. It will therefore be possible for removal of an individual device from a package of devices to generally take place in simple and problem-free manner with use of the device 1 shown in figure 1a (provided with the hook-shaped incision 10). Container 5, or at least the compartments 8, 9, are manufactured from a flexible material 5 permeable to drink, such as for instance from textile, paper or perforated plastic. The folded-up position of device 1 shown in figure 1a is in the first place very suitable for transport and storage of device 1, since the volume taken up is relatively small. In addition, the device 1 has the advantage that after use the device 1 can be returned to the shown folded-up position without the user therein being scalded and/or coming into 10 contact at all with a drink held in container 5. It is noted that other mixtures can also be applied as extractable mixture as well as tea leaves. Using device 1 it is thus possible to envisage adding for instance soup extracts, coffee extracts or vanilla extracts to a drink instead of tea extracts. It is noted that cover 2 here has a rectangular form. It is however also conceivable to design cover 2 in other manner, for instance as oval shape or round, 15 wherein cover 2 preferably at least substantially encloses container 5 in the folded-up position as according to figure 1a.

Figure 1b shows a perspective view of device 1 of figure 1a in a transition situation. The transition situation is a situation between the folded-up situation of figure 1a and the 20 folded-out situation of figure 1c.

Figure 1c shows a perspective view of device 1 of figure 1a in a folded-out situation. In the folded-out situation the device 1 is suitable for providing a drink with extracts by immersing (a part of) the device 1 in the drink. Container 5 can thus be positioned in a 25 drink, whereby compartments 8, 9 can be immersed in the drink, whereupon extraction from the mixture enclosed in compartments 8, 9 can take place.

Figure 2 shows a perspective view of an assembly 11 of device 1 of figure 1 and a drinking cup 12. Device 1 is positioned in stable manner on a rim 13 of drinking cup 12 30 using hook-shaped incision 10 such that only container 5 can make contact with drink present in drinking cup 12. Cover 2 will therefore substantially not come into contact with the drink and thus remain at least substantially dry, which is advantageous for the user after use of device 1.

Figure 3 shows a perspective view of another advantageous embodiment, with exploded parts, of a device 14 according to the invention. The device comprises a cover 15, which cover 15 comprises two cover parts 17, 18 mutually connected for pivoting on a first pivot axis 16, and a container for an extractable mixture 19, which container 19

5 comprises two container parts 21, 22 mutually connected for pivoting on a second pivot axis 20. Each cover part 17, 18 is provided with a strip 23, 24 on a part remote from the first pivot axis 16, wherein each strip 23, 24 is provided with a channel 25, 26. Each container part 21, 22 is provided with a compartment 27, 28, which compartments 27, 28 are filled with an extractable mixture. Each container part 21, 22 is moreover

10 provided with a counter-strip 29, 30 on a part remote from the second pivot axis 20, which counter-strips 29, 30 are provided with a thickened outer end 31, 32. Strips 23, 24 are adapted for co-action with counter-strips 29, 30, whereby a releasable pivotable coupling can be realized between cover 15 and container 19. It is for instance possible here to give the cover 15 a durable form, wherein container 19 is replaced after use by

15 an unused, new container.

Figure 4 shows schematically a device 1 according to the invention in a further alternative embodiment. In this embodiment the cover 2 is provided with cover parts 3, 4 connected pivotally to each other via a spine 41 folded round an end of container 5

20 such that this latter is fixed therebetween. Spine 41 can for instance be glued, stapled or otherwise fixed against container 5. Spine 41 forms on each side a first longitudinal edge 30 of the relevant cover part 3, 4. Each cover part 3, 4 is substantially rectangular and has a second longitudinal edge 31 extending roughly at a right angle to the first longitudinal edge 30 from a corner point 36 formed by the intersection of the first and

25 second longitudinal edges 30, 31. Both cover parts 3, 4 can be folded along the first longitudinal edges 30 from the position shown in figure 4A, via the position shown in figure 4B to the position shown in figure 4C, wherein the two cover parts 3, 4 are folded against each other and container 5 hangs thereunder. In figure 4A the two cover parts 3, 4 are already slightly pivoted in order to show the container 5 clearly. Cover parts 3, 4

30 can however be pressed against container 5, for instance for squeezing thereof or during storage. Extending from the second longitudinal edge 31 in each cover part 3, 4 is an incision 10 which comprises a first part 32 and second part 33. This incision 10, which is almost the same as that shown in figures 1-3, will be further elucidated with reference to figure 6.

Figure 5 shows another further alternative embodiment of device 1 according to the invention, wherein the cover once again comprises a first cover part 3 and a second cover part 4 which are mutually connected with three longitudinal edges such that a flat tubular cover 2 is obtained. The first longitudinal edges 30 of the two cover parts 3, 4 are herein left free so that a removal opening 42 is formed there. On the opposite side 43, during use the top side, there is provided a hole 44 through which a thread-like element 39 extends. This thread-like element 39 is connected at a first end to a label 40 and at the opposite end to a container 5, as shown clearly in figure 5C. In the position shown in figure 5A, the container 5 is pulled up into cover 2 and label 40 is fixed for instance against the sides of one of the cover parts 3. Prior to use the label 40 is released and pressed in the direction T as shown in figure 5D against the longitudinal edges 31 so that the removal opening 42 is opened and container 5 will, preferably under the influence of gravity, come out of cover 2 in the direction V until label 40 comes to a stop against hole 44. This situation is shown roughly in figure 5. An incision 10 is once again arranged in the two cover parts 3, 4, as further shown in figure 6. Cover 2 can hereby be placed on rim 13 of a drink container 12 as shown in figure 2. Container 5 herein hangs in drink container 12 from the thread-like element 39. It can optionally rest wholly or partially on the bottom, although it is recommended that it is supported for the greater part by thread-like element 39.

Figure 6 shows a side view of two embodiments of a device 1 according to the invention, with two embodiments of the incision 10. Figure 6A shows an incision 10 formed from two straight cuts 32, 33 which form respectively a first and second part of incision 10. They are mutually connected at a corner point 35. The first part 32 intersects the second longitudinal edge 31 at an intersection 34 and encloses with longitudinal edge 31 an angle \forall , for instance an angle of about 135°. The first and second parts 32, 33 mutually enclose an angle \exists of for instance about 90°. The intersection 34 lies at a distance D from the corner point 36 which is relatively small relative to the length L of the second longitudinal edge 31. This distance D is for instance about a quarter of the length L or less. The intersection 35 of the first and second parts 32, 33 preferably lies on the same side of a centre line M as intersection 34. Figure 6B shows an alternative embodiment of an incision 10 according to the invention wherein the first part 32 and the second part 33 are connected to each other by

a bend. A first tangent 37 to the first part 32 herein encloses an angle \exists with a second tangent 38 to the second part 33, which angle \exists is comparable to that described in figure 6A. The first tangent 37 encloses an angle \forall with the second longitudinal edge 31, which angle \forall is again comparable to that shown and described in figure 6A.

5

It will be apparent that diverse other forms of incisions 10 according to the invention can be provided within the scope of the invention outlined by the claims. All the shown and described embodiments can be embodied with an incision 10 as according to figure 6A or B or said variants thereof. These can all be used as described and shown with 10 reference to figure 3. The invention is in no way limited to the embodiments shown in the drawing and described here. Many variations thereof are possible within the scope of the invention outlined by the claims.

One or more incisions can thus be provided on two opposite longitudinal edges. The or 15 each incision can also take a different form, for instance straight or provided with three or more parts. The container can be connected pivotally to the cover, wherein a fold-line can be provided in one or more cover parts such that in a position of use the longitudinal axis of the cover encloses an angle varying from 180° with a longitudinal axis of the container, while in the storage position, wherein the container is received at least 20 substantially between the cover parts, both longitudinal axes are parallel. The cover can consist of more than two parts and can be constructed from separate parts. Both the inside and outside of the cover parts can be printed or otherwise provided with advertising material and the like.

These and many other variations are deemed to fall within the scope of the invention.